

ON *DOSINIA LUCINALIS* (LAMK.) AND ITS SYNONYMS.

By A. J. JUKES-BROWNE, F.R.S., F.G.S.

Read 10th May, 1912.

THIS species was first described by Lamarek in 1818 (*Anim. sans Vert.*, vol. v, p. 572) under the name of *Cytherea lucinalis*, and it was figured by Delessert in 1841 (*Recueil Coquilles*, Lamk., pl. ix, figs. 2a-c). Still later a specimen, but apparently not the type as figured by Delessert, was represented in Chenu's *Illustrations Conchyliologiques* (vol. ii, pl. x, figs. 3-3b). None of the later writers, however, such as Hanley, Philippi, Sowerby, Reeve, or Römer, seem to have seen a specimen which they could identify with Lamarek's shell.

Hanley in his *Catalogue of Recent Bivalve Shells*, p. 101, published in 1843, gave a translation of Lamarek's description, with the additional statement that it was ornamented with "minute uninterrupted longitudinal lineoles". This he probably inferred from Delessert's figure, a copy of which he gave in his pl. xiii, fig. 30. Römer, writing in 1862, remarks that apart from these figures and the short description given by Lamarek "the species is quite unknown and seems only to exist in Lamarek's collection".

Meantime, however, G. B. Sowerby, in his *Thesaurus Conchyliorum* of 1852 (vol. ii, p. 673, pl. cxliv, figs. 71, 84), described a shell under the name of *Artemis striatissima*, which he believed to be a new species, and certainly he could hardly have identified it with *lucinalis*, because Lamarek said nothing about radiating striæ, and his type had a reddish tint on the umbonal region, whereas Sowerby's shell was white.

Recently a shell came into my possession which agreed so nearly with the description and figure given in Hanley's *Catalogue* that I thought it must be a specimen of *D. lucinalis*, in spite of its being white with only a yellowish tint on the disc. The only way to settle the matter was to have it compared with the type in the Geneva Museum of Natural History. Dr. E. F. Weber of that Museum having kindly consented to make the comparison, the shell was forwarded to him, and in returning it he writes: "c'est bien *Dosinia lucinalis* (Lamk.), cependant il est à remarquer que dans votre exemplaire le sinus palléal est plus large, plus obtus que dans le type, et que la coloration interne de l'individu de Lamarek est d'un brun foncé."

On reporting this result to Mr. E. A. Smith, he drew my attention to the fact that the white *D. striatissima* of Sowerby must be very similar to my specimen of *D. lucinalis*, since both have a sculpture of radiating striæ and a similar wing-like elevation of the esutcheon area. The shell was therefore sent to Mr. Smith for comparison with Sowerby's type in the British Museum, and he writes "your specimen is so exactly like the type of *D. striatissima* that if I got them mixed I should not be able to say which was which".

Moreover, Mr. Smith found that there was another shell in the Museum Collection which agreed in every essential respect with the *lucinalis* and *striatissima*; this was a shell in Cuming's collection which had been described by Römer under the name of *D. amethystina*.<sup>1</sup> There is a full description of this shell in Römer's monograph of *Dosinia* (*Novitates Conch.*, Abt. ii, Suppl., p. 80, Cassel, 1862), but he never figured it. The description might be one of *lucinalis* or *striatissima*, except that, instead of being white, it is described as "violascente albida, ad umbonum regionem amethystina", and also that the pallial sinus is rounded at the end. Mr. Smith, however, is of opinion that these are merely varietal characters, and that the shell described by Römer is undoubtedly a variety of *D. lucinalis*.

Thus the identification of my shell with the types of *lucinalis*, *striatissima*, and *amethystina* becomes a matter of some importance, because it not only establishes the identity of three species which were supposed to be different, but shows that Lamareck's shell was not the unique specimen that Römer imagined it to be, and also reveals the fact that it is a form which varies much in colour.

Under these circumstances it seems desirable to give a more complete description of *D. lucinalis* than has yet been published, and I think the following will be found to include all the characters which are of any real importance.

#### *DOSINIA LUCINALIS* (Lamk.).

Testa solida, ad figuram fere circulari, alt. 24–8, lat. 24–8 mm., sub-convexa, inæquilaterali; umbonibus parvis, obtusis, incurvatis; lineis elevatis, tenuibus, confertis, subtiliter nodulatis, ex umbonibus radiantibus ornata, et liris concentricis, erectis, distantibus cineta; lunula lanceolata, valde impressa, in medio prominente; area posteriori lanceolata, marginibus angulatis limitata, medio in alæ formam labiis prominentibus surrecta, inter et subter quæ ligamentum vix conspicuum videtur.

Colore variabili, interdum omnino alba, interdum in parte vetustiori colore melino, vel amethystino, vel rubido tineta. Pagina interna alba, vel amethystina, vel rubida; sinu palliari profundo, ascendente, in extremitate anteriori rotundato vel obtuse angulari; lamina cardinali valida, latissima, dente laterali in valva dextra, papilliformi, rugoso; dente cardinali mediano crasso, rugoso; dentibus in valva sinistra normalibus. Valva dextra margine posteriori strige vel sulco angusto, brevi sed profundo, inciso.

Shell solid, nearly circular in outline, measuring from 24 to 28 mm. both in height and in width; moderately convex, inequilateral, with small, obtuse, incurved umbones; ornamented with numerous fine raised lines or riblets, which radiate from the umbones, and are crossed by less numerous concentric ridges or lamellæ, as well as by fine striæ, which give them a wavy or nodulated appearance. Lunule lanceolate, deeply impressed, with pouting lips; escutcheon rather narrow, defined by angular inflexions, and rising along the median

<sup>1</sup> Proc. Zool. Soc. Lond., 1860, p. 118.

line into an arched wing-like prominence above the ligament, which latter is just visible between its lips.

In colour the shell is variable, being sometimes entirely white, sometimes tinged with pale yellow, or pale violet or red on the older part of the shell. The internal surface is either white, violet, or reddish-brown, the hinge-plate strong, bearing on the right valve a roundish rugose anterior lateral, and the middle cardinal is also thick and rugose; the teeth of the left valve are normal. Pallial sinus deep, ascending, sometimes rounded, and sometimes bluntly angular at the anterior end. The right valve has a short but deep groove on the posterior margin.

This species is distinguished from all others by the fine longitudinal radiating riblets which cover its surface and are irregularly nodulated by very fine concentric incised lines or striæ. In size, shape, concentric sculpture, and dentition *D. lucinalis* much resembles *D. histrio*, but the escutcheon area is very different. The elevation of this area into a wing-like projection is not a character of more than specific importance. Other species show it in a less degree, such as *D. pubescens*, *D. Japonica*, and *D. prostrata*, and the degree of elevation varies even in the same species.

With respect to habitat, this also can now be established. The locality given by Lamarek is the island of St. Thomas, but this was probably a mistake. The locality of Sowerby's type of *D. striatissima* was unknown, but that of *amethystina* is given as Australia, and Mr. Smith informs me that the British Museum also possesses a specimen of *striatissima* (i.e. the white variety) from the Monte Bello Islands (West Australia), collected and presented by Mr. T. H. Haynes, so there can be no doubt what part of the world is the real home of this interesting species.